

AMENDMENTS TO THE CLAIMS:

Please cancel claims 7-13, 17-18, 23-24 and 26-40 without prejudice or disclaimer.

Claim 1. (Currently amended) An optical communication system for amplifying an optical signal propagating through a front ~~an~~ optical transmission line mounted at a front stage by using an optical amplifier in an optical repeater and emitting the ~~an~~ amplified optical signal to a back ~~an~~ optical transmission line mounted at a back stage, comprising:

a transmission line compensating device to generate control light which is input to one of said front and back optical transmission lines ~~line~~ to produce a Raman amplification effect within said one of said front and back optical transmission lines ~~line~~ outside of said optical repeater based on a control signal corresponding to an ~~superimposed on~~ said optical signal level and input from said front optical transmission line, and

wherein said optical amplifier is disposed between said transmission line compensating device and the other one of said front and back optical transmission lines.

Claim 2. (Currently amended) The optical communication system according to Claim 1, wherein said transmission line compensating device is so configured as to send said control light to said front ~~an~~ optical transmission line ~~mounted at a front stage~~ outside of said optical repeater, and

wherein said optical amplifier is disposed between said transmission line compensating device and said back optical transmission line.

Claim 3. (Currently amended) The optical communication system according to Claim 1, wherein said transmission line compensating device is so configured as to send said control light to said back optical transmission line ~~mounted at said back stage~~ outside of said optical repeater, and

wherein said optical amplifier is disposed between said transmission line compensating device and said front optical transmission line.

Claim 4. (Original) The optical communication system according to Claim 1, wherein said transmission line compensating device is mounted inside said optical repeater.

Claim 5. (Currently amended) The optical communication system according to Claim 1, wherein said transmission line compensating device is separately and individually mounted outside said optical repeater.

Claim 6. (Currently amended) The optical communication system according to Claim 1, wherein said transmission line compensating device further comprises:

two or more control light sources to generate control lights ~~light~~ having ~~a~~ different wavelengths and outputs ~~wavelength and output~~; and

an optical multiplexer to multiplex said control lights light fed from said two or more control light sources.

Claims 7-13. (Canceled)

Claim 14. (Currently amended) An optical repeater for connecting between a front optical transmission line and a back optical transmission line, comprising:

an optical amplifier for amplifying an optical signal propagating through said front ~~an~~ optical transmission line mounted at a front stage ~~by using an optical amplifier~~ and sending the ~~an~~ amplified optical signal to said back ~~an~~ optical transmission line mounted at a back stage; and comprising:

~~a transmission line compensating device to generate, based on a control signal superimposed on said optical signal and input from said optical transmission line, control light which is input to said optical transmission line to cause a Raman amplification effect within said~~

~~optical transmission line outside of said optical repeater~~

a transmission line compensating device to generate control light which is input to one of said front and back optical transmission lines to produce a Raman amplification effect within said one of said front and back optical transmission lines outside of said optical repeater based on a control signal corresponding to an optical signal level input from said front optical transmission line, and

wherein said optical amplifier is disposed between said transmission line compensating device and the other one of said front and back optical transmission lines.

Claim 15. (Currently amended) The optical repeater according to Claim 14, wherein said transmission line compensating device is so configured as to send said control light to said front an optical transmission line ~~mounted at a front stage~~ outside of said optical repeater, and

wherein said optical amplifier is disposed between said transmission line compensating device and said back optical transmission line.

Claim 16. (Currently amended) The optical repeater according to Claim 14, wherein said transmission line compensating device is so configured as to send said control light to said back optical transmission line ~~mounted at a back stage~~ outside of said optical repeater, and

wherein said optical amplifier is disposed between said transmission line compensating device and said front optical transmission line.

Claims 17-18. (Canceled)

Claim 19. (Currently amended) The optical repeater according to Claim 14, wherein said transmission line compensating device further comprises:

two or more control sources to generate control lights ~~light~~ having a different wavelengths and outputs ~~wavelength and output~~; and

an optical multiplexer to multiplex said control lights ~~light~~ fed from said two or more

control light sources.

Claim 20. (Currently amended) An optical repeater for connecting between a first front optical transmission line and a first back optical transmission line making up an upward transmission line which form an upward transmission line, and between a second front optical transmission line and a second back optical transmission line which form a backward transmission line, said repeater comprising:

a first optical amplifier for amplifying an optical signal propagating through said first front optical an upward transmission line or a downward transmission line by using a corresponding optical amplifier and sending the an amplified optical signal to said first back optical an upward transmission line; mounted at a back stage or a downward transmission line mounted at a back stage comprising:

a second optical amplifier for amplifying an optical signal propagating through said second front optical transmission line and sending the amplified optical signal to said second back optical transmission line;

a first transmission line compensating device to generate control light which is input to one of said first front and first back optical transmission lines to produce a Raman amplification effect within said one of said first front and first back optical transmission lines based on a control signal corresponding to an optical signal level input from said first front optical transmission line, said first optical amplifier being disposed between said first transmission line compensating device and the other one of said first front and first back optical transmission lines;

a second transmission line compensating device to generate control light which is input to one of said second front and second back optical transmission lines to produce a Raman amplification effect within said one of said second front and second back optical transmission lines based on a control signal corresponding to an optical signal level input from said second front optical transmission line, said second optical amplifier being disposed between said second transmission line compensating device and the other one of said second front and second back optical transmission lines

~~transmission line compensating devices each operating for said upward transmission line or said downward transmission line and each generating, based on a control signal superimposed on said optical signal and input from said upward transmission line or said downward transmission line, control light which is input to said optical transmission line to produce a Raman amplification effect within said upward transmission line or said downward transmission line outside of said optical repeater.~~

Claim 21. (Currently amended) The optical repeater according to Claim 20, wherein said first/second transmission line compensating device is devices are so configured as to send said control light to said first/second an optical transmission line, and
wherein said first/second optical amplifier is disposed between said first/second transmission line compensating device and said first/second back optical transmission line mounted at a front stage outside of said optical repeater

Claim 22. (Currently amended) The optical repeater according to Claim 20, wherein said first/second transmission line compensating device is devices are so configured as to send said control light to said first/second back optical transmission line, and
wherein said first/second optical amplifier is disposed between said first/second transmission line compensating device and said first/second front optical transmission line mounted at said back stage outside of said optical repeater.

Claims 23-24. (Canceled)

Claim 25. (Currently amended) The optical repeater according to Claim 20, wherein said transmission line compensating devices further comprise:

two or more control sources to generate control lights light having a different wavelengths and outputs wavelength and output; and
an optical multiplexer to multiplex said control lights light fed from said two or more

control light sources.

Claims 26-40. (Canceled)

Claim 41. (New) The optical communication system according to Claim 1, wherein said transmission line compensating device further comprises:

- a light receiving circuit for detecting the optical signal level input from said front optical transmission line; and

- a control circuit for generating the control light based on the detected optical signal level fed from said light receiving circuit.

Claim 42. (New) The optical repeater according to Claim 14, wherein said transmission line compensating device further comprises:

- a light receiving circuit for detecting the optical signal level input from said front optical transmission line; and

- a control circuit for generating the control light based on the detected optical signal level fed from said light receiving circuit.

Claim 43. (New) The optical repeater according to Claim 20, wherein said first/second transmission line compensating device further comprises:

- a first/second light receiving circuit for detecting the optical signal level input from said front optical transmission line; and

- a first/second control circuit for generating the control light based on the detected optical signal level fed from said first/second light receiving circuit.